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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/056,182	01/24/2002	Patrick J. Hood	CRG 005 P2	9461
33805	7590	08/27/2004	EXAMINER	
WEGMAN, HESSLER & VANDERBURG 6055 ROCKSIDE WOODS BOULEVARD SUITE 200 CLEVELAND, OH 44131			KUHN, ALLAN R	
			ART UNIT	PAPER NUMBER
			1732	

DATE MAILED: 08/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/056,182	Applicant(s) HOOD ET AL. 9	
	Examiner Allan Kuhns	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16,23-26 and 40-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-13,23-26 and 40-43 is/are rejected.
- 7) ☒ Claim(s) 14-16 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>041702</u> . | 6) <input type="checkbox"/> Other: _____ |

1.Applicants' amendment filed July 30, 2004 is taken by the examiner as an election of Group I without traverse.

2.The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3.Claims 1, 2 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mead (4,675,061). Mead discloses or suggests the basic claimed method of making a mold from shape memory materials for manufacturing composite parts with resins which are solidified within the mold by application of a curing temperature (column 1, lines 28-32) including (1) providing the shape memory material with a critical transition temperature (column 2, lines 39-43) which, it is submitted, exceeds the curing temperature, (2) processing the shape memory material into a memorized shape, and (3) deforming the shape memory material from the memorized shape into a desired mold shape (this is described by Mead at column 2, lines 48-64 as dimensionally initializing a core material). The examiner takes Official Notice that it is known to produce composite parts which are of a castable form.

Mead teaches the use of a shape memory alloy, as in claim 2, and the use of pressure (column 2, line 55) to deform the shape memory material, as in claim 9. The examiner takes Official Notice that it is known to use a vacuum to reshape a preformed material

4. Claims 3-8, 10-13 and 23-26 and 40-43 rejected under 35 U.S.C. 103(a) as being unpatentable over Mead as applied to claims 1, 2 and 9 above, and further in view of Kawai et al. (4,950,258). Kawai et al., at column 1, lines 14-40, note the interchangeable nature of metallic alloys and polymeric materials (SMP) having shape memory properties. Given this teaching, it would have been obvious to one of ordinary skill in the art to substitute the use of polymeric material for metallic material in the process of Mead since both materials possess effective shape memory properties. With regard to claim 40, it is submitted that dies 24 and 26 (figure 4) in Mead represent a castable composite part since it is known to cast mold members. Concerning claim 23, Mead illustrates the use of a hollow, film-like structure and the form or mold has an upper and lower surface and the film conforms to the surface. Kawai et al. teach the use of norbornene based material, as in claims 25 and 42, and Mead suggests the steps of claims 24 and 41. The examiner takes Official Notice that the processing steps of claims 4-8 and 10-12 are known processes in shaping and reshaping polymeric or metallic performs. Mead forms a mechanical part, as in claim 43, such as a part used on an airliner.

5. Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allan Kuhns whose telephone number is (571) 272-

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1202. The examiner can normally be reached on Monday to Thursday from 7:00 to 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni, can be reached on (571) 272-1196. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Allan R. Kuhns

ALLAN R. KUHNS
PRIMARY EXAMINER AV 1732

8-25-04